

MARINE MAMMAL/VESSEL STRIKE (MMVS) WORKING GROUP
Stellwagen Bank National Marine Sanctuary, Scituate
9:00am to 5:30pm
May 25, 2004
Meeting 6

MEETING SUMMARY

ACTION: (Rick) **Provide the NAVEC May 01 report to the WG.**

ACTION: Action Plan I Options

Strategy 2: Reduce Risk of Vessel Strike between large Commercial ships and baleen whales

Action 3: The Sanctuary should consider whether to manage the speed of commercial shipping traffic after sunset and restricted visibility.

Option 1 – (Mo and Regina) Set mandatory speed limit

Option 2 – (Mo and Regina) Set voluntary speed limit

Option 3 – (Bill) Operate at safe speed

Option 4 – (Rick) No management of speed

ACTION: Action Plan II Options

(Rick) Guidelines for Whale Watch Boats

(Regina) Guidelines for all Boats

(Regina) Regulations for all Boats

ACTION: (Mason and Dave) **Provide ANPR to the Working Group**

ACTION: (WG Members) **Comments on Introduction, Speed Restrictions & Enforcement**

ACTION: (Mason and Dave) **Provide updated Strikes data to the Working Group**

Working Group Attendees

NAME	WG SEAT and AFFILIATION
Mason Weinrich	WG Chair, Whale Center of New England
David Wiley	WG Team Lead, SBNMS
Amy Knowlton	NEAq Right Whale Research, Science
Andy Glynn	General Category Tuna Association, Tuna Fishing
Bill Eldridge	Peabody Lane Shipping, Shipping
Brad Wellock	MassPort, Shipping
Brian D. Hopper	NMFS
Colleen Coogan	Independent, Conservation
David Gouveia	NMFS Protective Resources, NMFS
Erin Heskett	IFAW, Conservation
Greb Silber	NMFS, Silver Springs, MD
Hauke Kite-Powell	WHOI, Science
Jack Kent	MA Marine Trades Assoc., Recreational Boating
Just Moller	SBNMS, GIS Research Analyst
Karen Steuer	National Environmental Trust, Conservation
Michael Prew	Captain John Boats, Charter Boats
Mike Thompson	Perot Systems, GIS Analyst

Moria Brown	NEAq Right Whale Research, Science
Nathalie Martens	Whale Center of New England
Pat Gerrior	NMFS
Regina Asmutis	IWC, Conservation
Richard Meyer	Boston Shipping Association, Shipping
Rick Nolan	Boston Harbor Cruises, Shipping
Rowan Glen	Whale Center of New England
Sharon Young	Humane Society of the US
Tim Cole	NMFS NEFSC, NMFS
Tom King	Charter Boats

WELCOME, INTRODUCTIONS, AND ADOPTION OF AGENDA

Mason Weinrich (Chair) opened the meeting at 9:00 am and reviewed the action items from the May 5th meeting. An agenda for the meeting was not required; the meeting was dedicated to writing and editing the Action Plan.

OLD BUSINESS AND ACTION ITEMS

Presented by Mason Weinrich, WCNE

Review of Action Items from the last meeting on May 5th, 2004 at National Marine Fisheries Service Protected Species Branch, Gloucester. Working Group members did not have sufficient time to review the meeting 5 summary and chose not to accept them until all members had a chance to make changes and comments.

NEW BUSINESS

Addition of a new meeting on June 14th

The last Marine Mammal Vessel Strike Working Group meeting will be held on June 14th at the NMFS conference room in Gloucester. The meeting will begin at 9:30. The meeting will be dedicated to finalizing the Action Plan and reviewing Action Items from the May 25th meeting.

Action Plans: Format and Contents

Action plans and recommendations to the Sanctuary Advisory Council must be factually correct. There was some debate as to whether or not opinions would or would not all be captured. Several formatting issues of the draft action plan were discussed and changes to the format will be made accordingly.

Legal Framework Discussion on Restricting Vessels to Reduce Ship Strikes (Appendix A)

Presented by Ed Lindelof, NOAA Sanctuaries

Ed Lindelof spoke briefly about the authority of Stellwagen Bank national Marine Sanctuary and the right to regulate vessels within the Sanctuary. The National Marine Sanctuary Program has broad authority to promulgate regulations governing any activity in order to protect and manage sanctuary resources. See attached Appendix A for the complete documentation.

Any proposed regulations will have plenty of time for public review and comments. Stellwagen Bank National Marine Sanctuary will need to go through all appropriate administrative procedures and cannot just unilaterally place regulations out.

A previous report had defined a high speed vessel as a vessel traveling 30 knots. The (NAVEC May 01) document and information from the report was requested as an action item and may be available for review at the June 14th meeting.

Action Plan Discussion (Appendix B)

All Working Group Members

The Working Group has not come to a consensus on many of the issues which have given the opportunity to have multiple options and rationales for each topic. As discussed in previous meetings, a consensus from the Working Group may be more powerful to the SAC then providing them with options. The members of the Marine Mammal Vessel Strike Working Group will have far more expertise then the members of the Sanctuary Advisory Council on the subject of Vessel Strike.

AGREEMENT: Rationales of individual members will not be provided to the Working Group members. Rationales and proposals can only support that particular proposal and not comment on or diminish the other rationales or what is believed to be incorrect about other rationales.

The Action Plan cannot imply or state in one or many Working Group members supported different options.

Please refer to the Action Plan edits (Appendix B) as they stood at the conclusion of the meeting.

Discussion

Questions arose as to the authority of SBNMS to enforce all of the waters within Stellwagen Bank. In most cases Massachusetts Environmental Police and other regulatory officers have been deputized to enforce Federal Waters. SBNMS has clear regulatory power over Foreign-flagged vessels entering any United States port. The enforcement can extend out to as far as 200 miles or as close as 12 miles. Vessels in innocent passage (ex: transiting to Nova Scotia) can also be regulated but not as easily. The further out the vessel the more difficult it is to regulate, especially if the vessel is not entering a United States port.

RECOMMENDATION: Stellwagen Bank National Marine Sanctuary should have an outreach program that would notify SBNMS users of any legislation or changes within the Sanctuary.

The National Marine Sanctuaries does not have the power to change shipping lanes; the IMO makes decisions about alterations to shipping channels. Stellwagen Bank National Marine Sanctuary may have the power to regulate speed restrictions within the shipping lanes. It was suggested that the working group should not focus on what authority the Stellwagen Bank National Marine Sanctuary has but should focus on what types of alternatives can be suggested to the Sanctuary Advisory Council.

The remainder of the Marine Mammal Vessel Strike Working Group Meeting time was spent revising and editing the Draft Action Plan (Appendix B). Several notes were taken that may not have been captured within the Draft Action Plan and are introduced below.

Notes

The Automated Identification System (AIS) and its application to vessel within Stellwagen Bank National Marine Sanctuary were discussed. The AIS system may be used as a tool for the Sanctuary to help monitor compliance and also better inform vessels of potential strike risks. Limitations of the AIS system were also introduced, including the cost of having AIS installed on a vessel. Currently it cost under \$10,000 to have AIS installed but future development may drive the price down low enough to be introduced into the recreational market.

An example was given where a Whale Watching Boat was in the process of observing a whale when two large sports fishing vessels passed between the whale and the Whale Watching Vessel at a high rate of speed. The example led to a discussion about what regulations, if any, would be created for non Whale Watching Vessels.

A suggestion was made to see if the Action Plan could be simplified to simpler options. Some suggestions included; the introduction of a Special Use Permit, applying the Whale Watching Guidelines to all vessels, better alert and information reporting systems, Sanctuary wide speed restrictions.

MEETING CONCLUSION

Mason Weinrich, WCNE

The group agreed that another meeting was needed to make final revisions to the Action Plan. The Action Plan has been restructured in a way that required Working Group Members to write options and rationales that should be sent to Mason Weinrich or Dave Wiley. The final meeting will be held on June 14th in Gloucester.

Gerry E. Studds Stellwagen Bank National Marine Sanctuary
Management Plan Review

Vessel Strike Working Group Agenda

Date: May 25th 2004
Location: Stellwagen Bank NMS HQ, Scituate

TIME	TOPICS AND OBJECTIVES
9:15-9:30	Old Business <ul style="list-style-type: none">- Review Meeting Summary- Updates on Requested Information Discussion Leader: Mason Weinrich /Dave Wiley
9:30-10:00	Action Plans: Format and Contents Presenter: Mason Weinrich, WCNE
9:30-10:30	Legal Framework for Addressing Restrictions to Vessels to Reduce Ship Strikes of Marine Mammals Presenter: Ed Lindelof, NOAA Sanctuaries
10:45-1:00	Draft Action Plan
1:00-1:30	LUNCH
1:30-4:15	Draft Action Plan
4:15-4:30	Concluded Meeting and Assigned Action Items Presenter: Mason Weinrich, WCNE

Appendix A

Summary of the May 17th Informal Discussions with Stellwagen Bank NMS Representatives, NOAA Fisheries/PR, GCIL, GCOS, and GCF on the International Legal Framework for Addressing Restrictions on Vessels to Reduce Ship Strikes of Marine Mammals

Although it is not now known precisely what the measures are being considered for implementation to reduce ship strikes of marine mammals in Stellwagen Bank National Marine Sanctuary, there are measures that may be taken consistent with international law to regulate vessels. Particular measures would have to be analyzed under the principles outlined below to ensure consistency with international law.

Does the National Marine Sanctuary Program have the authority to regulate operations of U.S.-flagged vessels in the Stellwagen Bank National Marine Sanctuary? Yes. The National Marine Sanctuaries Act, as amended, 16 U.S.C. sec. 1441-1445a, provides that “the Secretary [of Commerce] [delegated to NOAA] may issue such regulations as may be necessary to carry out this [act].” 16 U.S.S. sec. 1439. This provision gives the National Marine Sanctuary Program broad authority to promulgate regulations governing any activity in order to protect and manage sanctuary resources. An example is regulation of the operation of any vessel.

U.S.-flagged vessels

Under international law, each State has the right to regulate its domestic vessels. GCF and GCOS will provide advice on whether NOAA has domestic legal authority to take a particular regulatory action regarding U.S.-flagged vessels and ship strikes.

Foreign-flagged vessels entering U.S. ports

As a matter of international law, the United States has always considered that a country has extensive authority to regulate ships entering its ports. (See, e.g., the 96 hour prior call in requirement). As a legal matter, the United States has neither limited this authority geographically nor by the type of legitimate interest being protected. The Law of the Sea Convention (UNCLOS) recognizes the interest of a coastal State in protection of its living marine resources, including rare and endangered species.

Foreign-flagged vessels in innocent passage through the U.S. territorial sea (seaward to 12 nautical miles)

A coastal State may, consistent with the UNCLOS, regulate vessels in innocent passage through its territorial sea with regard to a broad range of issues. These issues include the safety of navigation and regulation of maritime traffic, the conservation of living resources of the sea, and the preservation of the environment of the coastal State. UNCLOS, Art. 21(1). There are generally two limitations on this authority: (1) a coastal State may not adopt laws relating to the construction, design, equipment and manning of a vessel unless it is giving effect to generally accepted international rule and standards; and (2) a coastal State may not hamper the innocent passage of a vessel, except in accordance with UNCLOS. UNCLOS, Art. 24.

Foreign-flagged vessels transiting the U.S. exclusive economic zone (EEZ) (between 12 and 200 nautical miles)

There is no bright line between situations where a coastal State may regulate vessels in the EEZ and those where UNCLOS limits regulation to international rules and standards. The authority of a State to regulate is the strongest when it is more directly tied to the conservation, management, exploration, and exploitation of natural resources. If a decision is made to regulate vessels, there are important enforcement issues that will also have to be considered.

DRAFT

Appendix B

Action Plan: SBNMS Marine Mammal Vessel Strike

Goal Statement

Our goal is to determine where and when the potential of collision to marine mammals exists within the sanctuary, to determine what mitigation measures might be necessary and appropriate to minimize that potential, and, if necessary, determine what steps might be taken to assess the potential of collision where insufficient information currently exists. Additional goals are to foster cooperation with cross-jurisdictional partner addressing the issue, and educate Sanctuary users regarding the issues."

Introduction

There are a paucity of data regarding vessel collisions with whales. Historical records date back only to the mid 20th century, with the vast majority occurring since 1980 (Laist et al 2001, Jensen and Silber 2003). Fewer than 300 records exist world-wide. These data likely represent a gross underestimation of the problem as many strikes go unreported and most carcasses are lost at sea. In addition, the blunt trauma caused by a vessel's hull striking a whale often leaves no external signs of trauma and the cause of death can only be determined by thorough necropsy (Wiley et al. 1995). Since such necropsies are rarely performed, many vessel strike mortalities go unrecognized.

When whale mortality is recognized as resulting from vessel strike, identifying the specific vessel or vessel type is difficult. In many cases, the crew of a very large vessel might be unaware that a strike has occurred and so can not report its occurrence. Vessels of all sizes and types might also fail to report because of fear of prosecution (in some countries) or a lack of knowledge concerning the need to report or reporting procedures. Therefore, the vast majority of strikes go undetected and/or unreported. Where the vessel type is known, the primary reporter of whale collisions is from the Navy/USCG (14.9%) and commercial whale watch boats (14.2%) (Jensen and Silber 2003). However, these data are likely to be strongly biased, as it is standard operating practice for the Navy/USCG to report a strike and commercial whale watch vessel operators or passengers are more likely to be aware of, and report, a collision than other sources.

Vessel strikes along the east coast of the United States have received a great deal of attention in recent years because of their role in inhibiting the recovery of North Atlantic right whales (*Eubalaena glacialis*). Vessel strikes account for one of the two primary causes of human-induced mortality in this species (entanglement in fixed fishing gear being the other; Knowlton et al. 2001). Twenty-five cases of right whale ship strikes were reported in Knowlton et al. 2001, of which 18 (72%) were fatal. Given the precarious position and current decline of the right whale population (Caswell et al. 1999), and the contention that saving one right whale female per year would cause the decline to be halted (Fujiwara et al. 2001), the issue is serious.

While less is known about vessel strikes of humpback (*Megaptera novaeangliae*) and fin (*Balaenoptera physalus*) whales, fatal strikes are known to take place in these species as well. In the mid-Atlantic region, a significant number of strandings of humpback whales in the early 1990's were found to be due to ship strikes (Wiley et al. 1995). Three fatal fin whale ship strikes took place off of New York harbors in the three months between December 2000 and February 2001 (Jensen and Silber 2003). Among all ship strike records, fin whale strikes are the most

numerous, with humpback strikes second (Jensen and Silber 2003). Since both of these species occur commonly in the Stellwagen Bank National Marine Sanctuary (SBNMS) (Seipt et al. 1989; Clapham et al. 1993; Ward 1995), there is reason for concern when they are in the area.

Vessel strikes are known to take place in the SBNMS. In a review of the strikes reported in Jensen and Silber (2003) and supplemented from others sources, 13 were known to take place in waters in or immediately adjacent to the Sanctuary. An additional 27 carcasses were found beach cast around the Sanctuary. Given the reporting problems identified above, these figures are likely conservative. Data from Jensen and Silber (2003) indicated approximately 10% (31/296) of the world-wide data regarding collisions was collected from the greater Stellwagen Bank Sanctuary area (including Cape Cod Bay and Boston Harbor). Strikes were reported in all months of the year with the 85% occurring between May and August, a time when whales and opportunistic observations increase, and approximately 48% of the reported strikes resulted in a mortality (Jensen and Silber 2003). Species involved included four endangered species (humpback, finback, sei, and right) and one protected species (minke) with most strikes involving humpback whales (42%). Commercial whale watch vessels were involved in 25% of the strikes while 13% of the strikes involved a USCG vessel, a commercial ferry, a recreational vessel, and a container ship. However, as mentioned previously, these data are likely to be heavily biased as 61% of the strikes lacked information regarding the vessel involved, and commercial whale watch vessels are substantially more likely to report a strike than any other vessel type. (See Table 1).

Additional concern about vessel strikes of marine mammals in the SBNMS comes from several well-publicized strikes by whale watch boats in 1998. In several months a humpback (seriously injured), a fin whale (fate unknown), and a minke whale (killed) were all struck in or around the sanctuary, at a time when the average speed of whale watch boats jumped considerably (D. Wiley, unpublished data). These strikes led the Northeast Large Whale Recovery Plan Implementation Team Ship Strike Sub-committee to form an ad hoc task force to suggest management measures to minimize the risk of further strikes. Recognizing that whale watch boat speed was increasing over time, the team ended up suggesting a series of slow-down zones as a whale was approached. Boats were suggested to travel at speeds no greater than 13 knots within two miles of a whale, no greater than 10 knots at a mile, and at idle speed (no greater than 7 knots) within a half-mile. This was done to protect both the focal whale and any "unseen" whales that might be near the animal(s) that had been sighted. It was also suggested that a dedicated look-out be stationed when within two miles of a whale, to increase the chance that all whales would be seen. These suggestions have since been incorporated into the official National Marine Fisheries Service Northeast Whale Watch Guidelines in an attempt to decrease the risk of these vessel striking whales.

Factors Contributing to Vessel Strikes -

The paucity of data pertaining to vessel strikes to whales results in a lack of knowledge concerning what factors are likely to cause or contribute to the problem. Possible factors include, but are not limited to, the time of day or local visibility, the density of whales, the density of vessels, the awareness of the whale and the vessel operator, the speed and/or draft of the vessel, and the escape ability of the whales. For collisions between terrestrial wildlife and vehicles, the volume of traffic or animals, and the speed of the traffic were considered key contributors. However, it is not clear whether direct parallels can be drawn between terrestrial and marine environments and/or species.

Volume of Baleen Whales and Vessel Traffic in and Around the SBNMS -

The number of baleen whales occurring within and around the SBNMS varies by species, season and year. Right whales can occur in all months, but are usually most abundant from December – May. Humpback, fin and minke whales can also occur year round, with peak abundance typically between April and November. Local abundance shows substantial inter-annual variability, with annual baleen whale sightings ranging from a few hundred to thousands.

Vessel traffic in the SBNMS occurs year round, but also varies, primarily by type and season. For large commercial ships, the Boston Harbor Pilots association reported approximately 2000 transits (inbound and outbound) annually for the years 2000-2003 (2188, 2028 and 2230, respectively). In 2003, this number included 56 container, 161 tankers, 54 LNG, 22 salt, 5 scrap, and 95 cruise ships (B. Welloch, Massport, Report to MMVSWG). Additional passages are made by tugs and barges and other commercial shipping that did not require pilot assistance or that transited the sanctuary without calling on the port of Boston. For the years 2000-2003, commercial shipping volume was relatively stable on a monthly basis (unpublished data, Boston Pilots Association). Many of these vessels transit the sanctuary within the area of a Traffic Separation Scheme (TSS) that crosses the Sanctuary. However, the TSS is not mandatory and ship traffic maneuvers throughout the Sanctuary.

A wide assortment of other crafts make use of sanctuary waters. The SBNMS is considered a mecca for whale watchers, with at least 13 commercial companies focusing activity on the sanctuary. Most companies conduct multiple daily trips using one or more vessels during the April – October time period. Three ferries also operate in sanctuary. Smaller vessels also make heavy use of sanctuary waters. In 2003, Massachusetts distributed licenses to 472 charter, 37 party, and 13 regular guide boats, many of which accessed sanctuary waters. Numerous commercial fishing vessels operate within the Sanctuary including those targeting groundfish, lobster, Jonah crab, hagfish, scallop, and tuna. An unknown number of recreational and military vessels also visit the Sanctuary.

Whale and Vessel Speed -

Swimming speeds of baleen whales vary by species and activity. Under normal behaviors, most travel at speeds of ~ 1-5 knots. Maximum, short-term speeds range from ~ 10 kts for right whales to >20 kts for fin whales (). Vessel speeds range considerably depending on vessel type. Top speed for container and cruise ships is ~ 25 kts. Tankers and bulk carriers typically travel at speeds < 15 kts, and tug/barge combinations usually travel at speeds < 10 kts. Speed trends for these vessels are not known. However, between 1997 and 2001 there was a 74 % increase in foreign flagged vessels with a draft >30 ft calling on the port of Boston, suggesting that larger and possibly faster vessels might be using the area.

Vessel trends for whale watching vessel has been positive. In 1980, the mean speed of the whale watch fleet was ~11 kts with the fastest vessel approaching 15 kts. In 2003, the mean speed of the fleet was 23 kts, with the fastest vessels exceeding 35 kts.

The relationship between vessel speed and the frequency of collisions with whales is a debated topic with the main variables being the escape capabilities of the whale and the avoidance capabilities of the vessels. If whales and vessels make no attempt to avoid collision, modeling suggests that frequency of collision is independent of speed (Kite-Powell xxxx). If whales or vessels take avoidance measures, such measures are facilitated by the increased reaction time provided by slower vessel speeds. However, this relationship might be confounded by the ability of some vessels to maneuver more effectively at higher speeds.

Factors contributing to Whale Mortality

Data suggests that a ship traveling at greater than 13 kts striking a whale is likely to result in a fatality (Laist et al 2001). However, any vessel is capable of causing a fatal strike as the intensity of the collision depends on the size (tonnage) of the vessel, and the speed at which it is traveling. Therefore, a small vessel traveling at high speed can apply the same force as a large vessel moving slowly. Although a vessel traveling at a reduced speed, may increase the reaction time of the vessel operator, and the whale.

Existing Regulations

- NMFS Whale Watch Guidelines—Northeast Region (See Appendix I)

- Vessel Approach Regulations

In February 1997, NOAA's Fisheries Service implemented a regulation to minimize boat disturbance of right whales by restricting vessel approaches. These regulations prohibit all approaches within 500 yards (460m) of any right whale, whether by ship, aircraft or other means. Exceptions exist for emergency situations and where certain authorizations are provided.

- Mandatory Ship Reporting

Each ship of 300 gross tons or greater must participate in the reporting systems, except government ships exempted from reporting by regulation V/8-1(c) of SOLAS. However, exempt ships are encouraged to participate in the reporting systems. Participating ships must report to the shore-based authority upon entering the area covered by a reporting system. Additional reports are not necessary for movements made within a system or for ships exiting a system. A ship equipped with IMMARSAT C must report in IMO standard format as provided in Table 169.140 in §169.140. A ship not equipped with INMARSAT C must report to the Coast Guard using other means, listed below in order of precedence: (1) Narrow band direct printing (SITOR). (2) HF voice communication, or (3) MF or VHF voice communications. SITOR or HF reports made directly to the Coast Guard's Communications Area Master Station Atlantic (CAMSLANT) in Chesapeake, VA, or MF or VHF reports made to Coast Guard activities or groups, should only be made by ships not equipped with INMARSAT C. Ships in this category must provide all the required information to the Coast Guard watchstander. Each ship report made to the shore-based authority must follow the standard reporting and format requirements listed in table 169.140.

Telegraphy Function		Information required
Name of system	System identifier	Ship reporting system WHALESNORTH or WHALES SOUTH
A	Ship	The name, call sign or ship station identity, IMO number, and flag of the vessel.
B	Date and time of event	A 6-digit group giving day of month (first two digits), hours and minutes (last four digits).

E	True course	A 3-digit group.
F	Speed in knots and tenths of knots	A 3-digit group.
H	Date, time and point of entry into system	Entry time expressed as in (B) and entry position expressed as-

(1) a 4-digit group giving latitude in degrees and minutes suffixed with N (north) or S (south) and a 5-digit group giving longitude in degrees and minutes suffixed with E (east) or W (west); or

(2) True bearing (first 3 digits) and distance (state distance) in nautical miles from a clearly identified landmark (state landmark).

Action Plan

I) *Management of Commercial Ships*

It was agreed that large commercial ships (defined as those vessels with a weight of greater than 300 gross tons, or tugs and barges with a combined weight of more than 300 gross tons) represented a distinct class of vessels. A key reason for the separation of large commercial vessels from other vessel types were issues relating to their maneuverability and ability to take sudden actions to avoid collisions with whales.

Strategies and Implementation Actions:

The Sanctuary will work in partnership with various agencies and organizations involved with The management of commercial shipping to implement the following strategies and activities. *Suggested personnel, inter-program relationships, suggested implementation and costs, enforcement considerations, suggested performance measures to assure effectiveness of management plan to be considered.*

Strategy 1. The sanctuary should reduce the risk of vessel strike between commercial ships and right whales

Action 1: The SBNMS should be aware of the NOAA Fisheries Planned “Measures to Reduce Ship Strikes of Northern Right Whales” and how such measures would affect the sanctuary

There was agreement among the parties that right whales were extremely endangered, and that special consideration should be awarded to them. The NOAA Fisheries is currently developing a Proposed Rule, “Measures to Reduce Ship Strikes of Northern Right Whales”, to reduce collision risk between right whales and commercial ships, and a draft of an Advanced Notice of Proposed Rulemaking was presented to the Working Group. Possible plans involving the Sanctuary include a nearby area to be avoided on the eastern side of Cape Cod Bay during the winter and early spring, and speed limitations for all vessels 65 feet and over in an area north of Race Point (including a portion of the sanctuary) from 1 April to 15 May. At this time (the drafting of the Working Group’s Action Plan) the NOAA Fisheries’ plan has not been finalized or appeared in the Federal Register. The WG was not given the opportunity to review the final NOAA Fisheries

planned “Measures to Reduce Ship Strikes of Northern Right Whales” and provided the following options to the SAC for consideration:

Option # 1a – The SBNMS should work with NMFS and support their efforts to implement the portions of the “Measures to Reduce Ship Strikes of Northern Right Whales” for the management area that overlaps a large portion of the SBNMS. Specifically, The WG was informed that measures will likely be proposed to require vessels 65 feet and greater transiting an area off of Race’s Point between April 1 and May 15 of each year to operate at a reduced speed (10-14 KNOTS) or route around the area.

Rationale: NMFS presented an overview of a national plan that will soon be published as an Advanced Notice of Proposed Rulemaking (ANPR) to reduce vessel strikes on right whales along the east coast. One of the proposed areas, off of Race’s Point, occurs largely within the Stellwagen Bank Sanctuary. The measures were developed to increase protection of right whales, while minimizing impacts on vessel operators. This goal is consistent with the goals of the SBNMS. The season and area proposed reportedly encompass observed routes that right whales take when leaving Cape Cod Bay. The minimum vessel size was selected because it is smaller than the smallest vessel identified in a lethal strike of a whale, and is a standard size used for other maritime industry management and regulatory purposes. The actual ANPR is not yet available for a complete review by the working group, therefore some group members were concerned with the adequacy of the precise area designated, the likely speed restrictions to be proposed, or the size of vessels designated for speed restrictions. However, the proposed plan was developed after more than a year of deliberations by whale scientists and regulatory agency personnel. Lacking the resources to deliberate as fully as the authors of the NMFS ship strike plan, the SBNMS should work cooperatively with NMFS to implement the portions of the national ship strike plan for the waters off of Race’s Point.

Option # 1b – The SBNMS should review the adequacy of risk reduction measures contained the NOAA Fisheries vessel strike risk reduction plan for North Atlantic right whales, which is soon to be released. If the review indicates that the plan is not adequate to reduce risk to right whales in the SBNMS, then staff should make recommendations to strengthen risk reduction measures.

Rationale: The NMFS provided a pre-release presentation of proposed measures in the plan to this working group. The sole measure that would affect SBNMS was a recommendation that speed restrictions be implemented for a small area at the southern boundary of SBNMS called “off Race Point,” from April 1 to May 15 annually. The intent was to protect right whales leaving their Cape Cod Bay critical habitat and moving east through the Sanctuary into the Gulf of Maine and the Great South Channel. The limited time period would not be in effect during the late winter and early spring (December to April) when right whales are entering Cape Cod Bay through SBNMS, which is the primary means of ingress. The group discussed this point as well as the suggestion that an additional, alternative shipping lane into Boston might be useful to shift traffic away from seasonal aggregations. When the NMFS plan is released for comment, it is important that the SBNMS assure that the plan is sufficient to reduce collision risk to right whales using the Sanctuary’s waters; and suggest alternative measures if the proposed strategies are insufficiently precautionary.

Option # 1c – The SBNMS should take no position on the NOAA Fisheries Plan until the final plan has been released for review.

Rational: As there is no documented proposal from the NOAA Fisheries with regards to Right Whales in the vicinity of the SBNMS, the WG can not review it. Therefore, a neutral position, none in favor or against, should be adopted until the final plan has been released for review.

No Other Action Items Have Been Recommended or Options Proposed

Strategy 2. The sanctuary should reduce the risk of vessel strike between large commercial ships (see previous definition) and baleen whales (additional to or including right whales)

Action 1. Development and evaluation of the SBNMS Information and Reporting Center.

The SBNMS should create a pilot project to assess the feasibility of developing the SBNMS Information and Reporting Center (see Appendix 4), based on use of the Automated Identification System. The project would 1) investigate the ability of the Center to identify and provide information to ships entering the SBNMS and 2) identify the actions of the vessels based on the information provided and 3) assess the adequacy of the whale sighting reporting and 4) evaluate the efficacy of the center for reducing the risk of vessel/whale collisions.

If the pilot program determines the communication center to be an effective way of reducing risk of collision, expand the program as an ongoing management tool.

Rationale: The AIS provides an automated, real-time mapping of vessel location, their identities, contact information, speed and other attributes. These data could be useful in reducing the risk of collisions between whales and vessels, particularly if sightings data could approach “real-time” accuracy.

Rationale: The AIS system capabilities are unknown. In addition, it is not clear that providing information to vessel operators is, in itself, a conservation measure. Therefore, it is not an action to reduce the risk of whale/vessel collisions. Rather, it is a research action that will result in a recommendation as to its potential conservation benefits.

Action 2: The Sanctuary should work with the commercial shipping industry, Coast Guard and NOAA Fisheries to develop a series of preferential and alternate Traffic Separation Schemes (TSS) to utilize when transiting the Sanctuary.

Rationale:

While whales can be found at any time of year in any portion of the Sanctuary, data collection to document distribution has not been systematic. Data collected from commercial whale watch vessels over the past 25 years document whales regularly using the waters of the western portion of the Sanctuary. The lack of sightings data from other portions of the Sanctuary, may be an artifact of lack of effort. Data from the whale watching industry showed that the density of whales fluctuates dramatically between and within years and seasons, although certain locations within the Sanctuary showed consistent patterns of high use.

Rationale:

Commercial traffic aware of potential aggregations of whales will be able to divert course to avoid these areas if notified in a timely manner.

Action 3: The Sanctuary should consider whether to manage the speed of commercial shipping traffic (as defined previously) after sunset and in restricted visibility.

Rationale: While it is not known when strikes occur, the ability to detect and avoid a whale decreases when visibility and awareness are reduced. As large ships are likely to transit the Sanctuary at all hours, and in all weather conditions, this precautionary measure may reduce the severity of collisions with whales.

Option #1: set mandatory speed limit

Option #2: set voluntary speed limit

Option #3: operate at safe speed

Option #4: no management of speed

II) Management of vessels other than larger commercial vessels

Although the group agreed that large commercial ships represented a distinct vessel class, there was no agreement on whether other vessel types should be aggregated into a single risk category or required further separation. Because agreement could not be reached, the WG is forwarding a series of options to the SAC for consideration.

Strategy 1: Strategy VS-1: Development of management regime governing the operation of vessels less than 300 gross tons in the vicinity of whales to reduce the risk of vessel strike.

The WG could not agree on whether the following Actions and Options should apply to all vessels or only to vessels specifically engaged in whale watching. Therefore this decision has been left to the SAC

Rationale for Whalewatching Guidelines for the Northeast Region applying only to commercial and recreational vessels engaged in whale watching

The proponent(s) believe that the whalewatching guidelines should apply only to vessels in search of whales for commercial and recreational observation. The guidelines as developed and published assume that the vessels operating under them have determined at the beginning of the voyage to search out and mingle with animals in the sanctuary. Accordingly, these vessels regardless of whether or not they are commercial or private, assume a heavier burden with regard to precautionary navigation through areas of the sanctuary where animals are known to be.

Additionally, the sanctuary is host to a variety of other stakeholders and users, both commercial and private. In addition to being an important area for commercial and recreational fishing, the waters of the sanctuary are an important part of this regions

marine highway system. Ships, and tugs and barges from all over the world travel through the sanctuary providing Massachusetts and New England with major goods and products that are required to support and maintain the regions quality of live, and which are a critical component of its economy. Commuter ferries connecting seaport communities throughout Massachusetts Bay are becoming popular again with the advancement of technologies that produce travel times and comforts, which compete favorably against automobile and other modes of transportation. These ferries can be critical to the economic life of communities such as Provincetown and the Cape islands. Accordingly, commercial vessels engaged in fishing or transiting the sanctuary, regardless of type, size, speed, port of origin or destination should not be subjected to the navigational guideline established for vessel engaged in whalewatching.

Although the potential for conflict does exist between vessels of all types operating within the Sanctuary, the proponent(s) believe that the best approach to reduce the potential conflict between these users and marine mammals within the sanctuary is to encourage the enrollment of such stakeholders as participants in the successful development and operation of the Sanctuary Information and Reporting Center. Indeed the masters and crews of these vessels will likely provide most of the real time reporting of animal sightings to the Center for most of the year when whale watch vessel are not operating.

The more difficult question is that of the recreational users on the bank who may not be familiar with the sanctuary and the populations existing within it. Although the proponent(s) expressed concern over this issue, no immediate recommendation was made other than to suggest that the private, recreational boating population be invited to participate in the activities of the Center, particularly with regard to reporting sightings.

In order for the guidelines to be most effective, and hopefully a national model, the whale watch industry of the northeast must step up its efforts to comply as closely as practical too their application and improve compliance. Additionally, the Sanctuary should take advantage of the requirement of most whale watch vessels to install AIS by January 05. It can do this by creating the Stellwagen Bank Marine Sanctuary Information and Reporting Center (Center) as described above. Once open, whale watch operators will become a critical partner with the Sanctuary in providing real time data on the location, density and activities of whales in the area. Accordingly, the sub committee recommends the following items to help improve long-term compliance by the industry. If compliance improves, the sub-committee is confident the guidelines will assure the protection of not only whales, but also the whale watching industry, which is a primary component to Massachusetts's tourism economy.

- 1) The sanctuary should continue to place quiet observers aboard whale watch vessels over the next several years to track compliance with the guidelines.
- 2) Sanctuary management and staff should share the results of theses observations with whale watch operators and crews through a series of fall or spring meetings to be held at Sanctuary headquarters.
- 3) Upon the opening of the Center (see Appendix 4) the Sanctuary will have the capacity to provide whale watch operators with real time information regarding the latest known location of whales. With the ability to monitor vessels from the Center, staff can notify a vessel tracking on AIS if they have a concern of non-compliance.

- 4) The Sanctuary should notify vessel owners of any observation or report of apparent non-compliance of its vessels within twenty-four hours to allow whale watch companies to respond immediately to the concern.

Action 1- If complied with, the Northeast Regional Whale Watching Guideline, as revised in 1999, appear to provide adequate protection for whales and should be used as the basis for management.

Currently, the whale watch industry and recreational whale watchers, are supposed to adhere to a series of guidelines; the only regulations that apply to them derive from the prohibition of harassment, as one of the definitions of a “take” in the Marine Mammal Protection Act of 1972. The group presented three options for management: codifying the current guidelines as regulations; creating and administering a special use permit for whale watching vessels in the SBNMS; and leaving the guidelines in place.

When discussing whale watching, the group agreed that, based on historical data on whale watch vessel strikes within the SBNMS, collisions with whales can occur at any speed or time. However, those that have resulted in serious injuries or mortalities were most likely to occur when the vessel was in transit, especially on the return to port, and within 2 miles of another whale suggesting that awareness and vigilance had been lower among whale watch boat crews upon completion of whale watching. The 1999 Northeast Regional Whale Watching Guideline revisions, by introducing additional speed limitations and dedicated observers, addressed these concerns.

Based on a review of historical and new information, the group agreed that the 1999 guidelines, if complied with, should be sufficient to substantially reduce the risk of strikes by vessels observing whales in the Sanctuary, and to reduce the severity of strikes if they do occur. However, the group agreed that based on data presented, current compliance with the guidelines’ speed components within the approach and departure zones was not generally adequate. Although the best compliance was within the close approach zone, speeds notably above those specified in the guidelines were still documented in that zone.

The group agreed that there was little information on compliance with guidelines other than speed on approach, departure, and in close proximity to whales. Gathering information on the level of compliance with all guidelines, combined with an evaluation of the role of each guideline in protecting whales from vessel strikes, is warranted.

The group agreed that anything which can be done to increase the awareness of the presence and position of whales could result in reduced risk of a strike.

Option # 1 – SBNMS should draft regulations based on the currently existing NMFS (NE region: 100 feet) guidelines. Unlike guidelines, regulations are legally enforceable. Regulations should be reviewed and modified as necessary based on the results of proposed research (see WW-4).

Rationale:

The proponent(s) believe that regulations should be based on scientific research, but there was concern expressed regarding the inability to enforce current guidelines. Therefore, the proponent(s) recommends codifying the current guidelines until research is completed.

Option # 2 – Continue to use the current guidelines

Rationale: The proponent(s) believe that the Whalewatching Guidelines of the Northeast Region (guidelines) as revised and published in 1999 represent the most practical and considerate application available to the safe practice of whale watch operations in the United States. If complied with they are in fact, more detailed and restrictive (but not more prohibitive) than the regulations currently in place in Hawaii and Alaska. National data made available to the sub-committee of the number of vessel contacts with large cetaceans in the sanctuary since 1999, indicate that the guidelines have been at least as effective as the results achieved through regulations in those regions. However, based on the observations made by Sanctuary staff aboard whale watch vessels during the 2003 operating season, the sub-committee is concerned about the evidence presented which suggest a low percentage of overall compliance by whale watch vessels while operating in close proximity to whales in that year.

In order for the guidelines to be most effective, and hopefully a national model, the whale watch industry of the northeast must step up its efforts to comply as closely as practical too their application and improve compliance. Additionally, the Sanctuary should take advantage of the requirement of most whale watch vessels to install AIS by January 05. It can do this by creating the Stellwagen Bank Marine Sanctuary Information and Reporting Center (Center) as described above. Once open, whale watch operators will become a critical partner with the Sanctuary in providing real time data on the location, density and activities of whales in the area. Accordingly, the sub committee recommends the following items to help improve long-term compliance by the industry. If compliance improves, the sub-committee is confident the guidelines will assure the protection of not only whales, but also the whale watching industry, which is a primary component to Massachusetts's tourism economy.

- 1) The sanctuary should continue to place quiet observers aboard whale watch vessels over the next several years to track compliance with the guidelines.
- 5) Sanctuary management and staff should share the results of theses observations with whale watch operators and crews through a series of fall or spring meetings to be held at Sanctuary headquarters.
- 6) Upon the opening of the Center (see Appendix 4) the Sanctuary will have the capacity to provide whale watch operators with real time information regarding the latest known location of whales. With the ability to monitor vessels from the Center, staff can notify a vessel tracking on AIS if they have a concern of non-compliance.
- 7) The Sanctuary should notify vessel owners of any observation or report of apparent non-compliance of its vessels within twenty-four hours to allow whale watch companies to respond immediately to the concern.

Strategy 2: The Sanctuary should consider a special use permit for vessels engaged in whale watching

Option # 1 – Create a special Use Permit for whale watching within the SBNMS

Special Use Permits for Whale Watching

Recommendation:

Members of the working group recommend that the Sanctuary adopt a regulation requiring vessels to stay 100 yards (300 feet) from whales within the Sanctuary unless the operator possesses a special use permit. Special use permits would be available to any operator who has paid the required fee and attended training in responsible boating around whales. Those who possess special use permits would be allowed to approach to 100 feet, provided they follow strict speed limits and other conditions of the permit, which could be revoked for failure to comply with conditions of its use.

Rationale:

Data presented to the vessel strike working group and to the behavioral disturbance group substantiate that whale watch vessels have struck whales. Whales have sometimes been hit just as the whale watch vessels were leaving an area where they had been watching whales. Because the vessels clearly knew that whales were nearby, we know that this problem cannot be adequately addressed simply by relying on vessels communicating the general location of whales to one another or to a shore-based informational relay. Risk of collisions can be reduced by requiring vessels to maintain a reasonable distance from whales and proceeding slowly in their proximity. Other recommendations in this report are addressing the issue of speed. This recommendation addresses the issue of proximity to whales.

The Hawaiian Islands Sanctuary and Glacier Bay National Park both require vessels to stay 100 yards (300 feet) from endangered whales. Members of the group recommend that this same approach distance be imposed in the SBNMS. The Hawaiian Islands are a sensitive birthing and breeding area for humpback whales, and Glacier Bay is an enclosed space, so they present particular challenges that necessitate strict adherence to conservative approach distances. Because the area of Stellwagen Bank is open ocean and is not a breeding area, we believe that it may be possible to allow vessels to approach whales closer than 100 yards, *provided* the master of the vessel has undergone basic training in whale behavior and safe vessel operation. If he or she has done so, they could be granted a Special Use Permit and be allowed to approach whales up to 100 feet, which is the current NMFS guideline for closest approach. All other vessels, with untrained crew (and lacking a Special Use Permit), would be required to adhere to the 100 yard approach distance. Any person, whether they are employed by a whale watch company or are simply a private vessel operator, could participate in the training and receive a Special Use Permit.

Under this proposal, a permit could be revoked if the vessel operator was found to violate the conditions of the permit (including stipulations on distance and speed of approaches), thus assuring that responsible behavior is rewarded and negligent behavior is not condoned.

The National Marine Sanctuaries Act allows for Special Use Permits to be granted (see Section 310) if the Secretary determines that such authorization is necessary to establish

conditions of use of any sanctuary resource or to promote public use and understanding of a sanctuary resource. Members of the group believe that whales are best safe guarded by requiring inexperienced or ill-informed vessel operators to stay 100 yards away from whales, and that getting closer to whales (a Sanctuary resource) should require a permit. We believe that this section authorizes the Secretary to allow closer access as a means of controlling risk to whales and educating the public of the importance of careful operation. Fees can be charged as a part of this program and could be used to assist in monitoring and enforcement. Section 922.48 of the Code of Federal Regulations (Title 15, Chapter IX) provides a full description of how permits can be issued.

Option 2: The Sanctuary should not create a special use permit for whale watching

Rationale:

Speed Restrictions

The working group spent considerable time discussing the issue of whether the speed of vessels increases either the risk of collision or the severity of collisions. Hauke Kite Powell presented information that based on mathematical models, and the assumption that whales will move randomly, the risk of collision remains the same regardless of speed until the vessel is going slower than the whale. Several WG members indicated that in at least some cases whales do attempt to avoid ships by moving away from them. Data and film from dugongs in Australia showed that the speed of an approaching boat may influence an animal's ability to successfully move out of the ship's path. Representatives from the shipping community, however, indicated that they remain unconvinced that slower speeds would benefit whales, at least in part because vessels are less maneuverable at slower speeds. They also questioned the legal authority of the SBNMS to impose speed restrictions on vessels. Finally, they questioned whether speed restrictions may be economically damaging; their economic argument is attached as an appendix to the action plan. After much discussion, three options were presented: one for a speed limit throughout the SBNMS, one to have a speed limit at night and limited visibility and one to continue the current lack of any speed restrictions.

Option # 1 – The SBNMS should impose a speed restriction within the sanctuary

Rationale: A considerable body of information suggests that speed is a factor in both the frequency and severity of whale/vessel collisions.

Frequency - The ability of a whale to escape the path of an oncoming vessel requires the animal to have sufficient time to recognize it is in danger and take the appropriate avoidance measures.

Severity -

Apologies to S. Young. I mistakenly deleted her email containing her rationale. This will be added.

Option 2: Speed limits for the Sanctuary of 15 knots at night and at times of restricted visibility less than a mile.

Rationale: The risk of collision to whales is there at all times. However, there is debate as to whether causing vessels to slow down may limit their ability to avoid hitting a whale. However, the ability of a vessel to avoid a whale is dependent on being able to

observe its presence. At night, or in fog, it is highly unlikely that the whale would be detected until it is too late to take evasive actions. Hence, a precautionary measure would be to have ships run at speeds that would allow the whale to avoid an oncoming vessel and, in the event a collision were to occur, to minimize the possibility of a fatal collision if one were to occur. The only effective way to do this that we are aware of is by limiting the vessel's speed.

Option # 3 – No speed restriction should or can be imposed within the SBNMS

Rationale: 1) Jurisdiction – The ship strike sub-committee believes that the National Marine Sanctuaries Act does not confer jurisdiction on the Secretary of Commerce or any Stellwagen Bank National Marine Sanctuary (SBNMS) official to promulgate or enforce speed restrictions in that part of the Sanctuary that includes international waters which is estimated to be 40% of the SBNMS. 15CFR922.4 states in relevant part:

“...the regulations implementing the designation shall be applied in accordance with generally recognized principles of international law and in accordance with treaties, conventions, and other agreements to which the United States is party.”

International law specifying the “rules of the road” for vessels at sea provide a great deal of autonomy for masters to navigate their vessels in a manner that ensures safety to the vessel, its crew and the environment.

The SBNMS does not have the authority to control vessel movements within the Sanctuary when those vessels are not engaged in fishing, mining or other activities related to exploitation of the Sanctuaries natural resources. Vessels traversing the waters of the Sanctuary, not engaged in such activities, are deemed to be in a status known as “Innocent Passage”. Only the US Coast Guard can enact regulations on vessels traversing the territorial seas. Only the IMO can enact regulations on vessels in International Waters. In both cases the enforcement of either type of regulations falls to the US Coast Guard.

All of the SBNMS is located outside state waters, the majority of the Sanctuary is in the Territorial Seas and some is in the International Waters even though those waters are within the EEZ. On 16 November 1994, the Convention on the Law of the Sea (LOS) came into force. Section 3 addresses the Innocent Passage of Vessels in the Territorial Seas. Article 12 grants “Ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.” The convention set the limit of territorial waters to 12 nautical miles, in which area the controlling state is free to set laws, regulate any use and use any resource. Vessels were given the right of “innocent passage” through any territorial waters. Beyond the 12 nautical mile limit there was a further 24 nautical mile limit, the ‘contiguous zone’, in which area a state could continue to enforce laws regarding activities such as smuggling or illegal immigration. Article 21 of the LOS grants “The coastal State may adopt laws and regulations, in conformity with the provisions of the Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following:

- (a) the safety of navigation and the regulation of maritime traffic;
- (b) the protection of navigational aids and facilities and other facilities or installations;
- (c) the protection of cables and pipelines;
- (d) the conservation of the living resources of the sea;
- (e) the prevention of infringement of the fisheries laws and regulations of the coastal State;

- (f) the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof;
- (g) marine scientific research and hydrographic surveys;
- (h) the prevention of infringement of the customs, fiscal, immigration or sanitary laws and regulations of the coastal State.

Such laws and regulations shall not apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to generally accepted international rules or standards.”

The only agency authorized to control vessel movements is the US Coast Guard. The Traffic Separation scheme that traverses the southern portion of the Sanctuary is not a mandatory shipping lane. It is a recommended scheme and is IMO approved, as it originates in international waters. Only the US Coast Guard has the Authority to move the lanes, change the status of the lanes, and submit the changes to IMO for approval.

Therefore the Sanctuary Advisory Council (SAC) should not be giving credence to any suggestion that the Sanctuary control shipping.

2) Justification – Proponents of establishing speed restrictions within the SBNMS have cited the need to avoid whale strikes but have offered no real evidence of a significant problem or a persuasive argument that speed limits would be a rational response to this problem if it, indeed, existed.

The proponents’ database of large whale ship strikes does not include a single incident of a strike to a right whale (Jensen and Silber, 2003) within the Stellwagen Bank Marine Sanctuary. This same database indicates that there has been only one documented case of a strike resulting in a fatality (Minke - Sept. 1998) within the sanctuary. Of the handful of strikes reported in the last few years all resulted in either “minor” or “unknown” injury.

In addition to the lack of significant evidence of harm to animals to justify the imposition of speed restrictions is the current paucity of the whale population on the SBNMS. The ship strike sub-committee has enjoyed significant participation from representatives of the Whale Watch industry which arguably has the most up to date information concerning whales within the SBNMS. They have reported that during the last several years the whale population on the Bank has decreased significantly making whale sightings much more difficult for the industry. A significantly lower population translates into a much lower likelihood of ship/whale collision.

3) Maneuverability of Large Ships – Ships need assistance to maneuver at slow speeds. Sea trials are conducted on ships before the owner takes delivery. These trials show that the turning circle and rate of turn of a vessel are greatly affected by speed. Large ships traveling at sea speed maneuver their best. It is when we introduce slowing a vessel down that performance and maneuverability decrease. The rate of turn a vessel is capable of decreases as less water passes the rudder. The time it takes for a vessel to make a turn increases as speed decreases. The turning circle is the measurement of a vessel to make one complete round turn under its own power. These results are recorded during sea trials. These trials show optimal turning circles necessary in the avoidance of an object are achieved at higher speeds. A reduction in speed will result in vessels lag in rudder response and a lot more room is necessary to achieve the desired maneuver.

A number of forces are involved in making ships turn. A combination of forces longitudinal, lateral, and rotational along a vertical axis is the pivot point. This is the point at which the vessel turns. This point is not fixed. It is a combination of the forces. Speed has the

greatest effect on the pivot point. The faster the vessel travels the closer the pivot point moves to the bow of the ship. This is optimal for maneuvering. The slower the vessel travels the further the pivot point moves towards the center of the ship, and the vessel's maneuverability greatly decreases. The vessel needs help to maneuver at slow speeds, such as a tug or thruster.

It is clear that establishing speed restrictions has the potential to make a large ship less maneuverable and, therefore, less able to alter course to avoid whale strikes.

4) Case Not Made - The proponents of speed restrictions contend that a vessel traveling at slower speed give large animals the opportunity to avoid strikes. There appears to be some evidence, however, that whales may be attracted to vessels and would, therefore, have a greater opportunity to be struck because of increased time of proximity to the ship.

There is no clear evidence that a significant threat to whales from commercial ships exists on the SBNMS or that if one did exist, speed restrictions would mitigate such a threat. There do exist, however, significant reasons to reject such a recommendation and the members of the ship strike sub-committee who prepared this position paper urge the SAC the reject speed restrictions on the SBNMS.

5) Reasonable Alternative – There is a more reasonable approach to dealing with the perceived threat to whales on the Bank – the establishment of a managed station for real time information sharing between vessels and the SBNMS managers. This system would provide information to the master of the vessel that would allow time to take whatever course of action the master deemed appropriate. An example of this information sharing might be:

“Captain of the MV “Sea Star” this is the Stellwagen Bank Sanctuary Station – we note your heading of 270 degrees @ a speed of 18 knots. A known aggregation of Humpback Whales has been sighted on your heading @ approximately 5 NM.

We request you take all necessary action to avoid an interaction with these whales which may include an appreciable course change, operating @ a safe speed, the posting of additional lookouts or any other safe action as deemed necessary by the Master. Nothing in this request shall relieve the authority of the Vessel's Master from taking action for the safety of his vessel.

Please advise your intended course of action.”

Creation of this system would provide a constructive approach to avoiding strikes without the potentially destructive impact of speed restrictions.

Enforcement

Because of the lack of consensus around the action plan, the group did not come to a strong agreement about the degree of enforcement, or the mechanism that was necessary to carry out enforcement activities. There was discussion about enforcement activities taking place using a dedicated sanctuary vessel, through partnership with the National Marine Fisheries Service and/or Massachusetts Division of Marine Fisheries, and using developing technologies such as the Automatic Identification System (AIS) being required on vessels greater than 65' in length

starting January 1, 2005, but no agreements were reached on the need for or the priority of enforcement in most cases. However, there was agreement on one item.

Action 1) The Sanctuary should continue to monitor whale watch compliance with guidelines or regulations, and report to the whale watch boats when they find notable non-compliance.

Rationale: A study conducted by the Sanctuary in 2003 indicated that commercial whale watching compliance with the speed zones placed around whales in the official NMFS whale watching guidelines to minimize risk of a vessel strike, especially to an unseen whale, was inadequate and needs to be improved. The group felt that the Sanctuary had done an exemplary job in their compliance study in 2003. Continued monitoring would be important in determining whether whale watch boats behaved in a way that sufficiently reduced risk of collision to whales. However, they also felt that rather than waiting to give a cumulative report on compliance, as was done with the initial study, owners and operators would like to be notified as quickly as possible if they had been found out of compliance, so they could take corrective measures in a timely fashion.

Option 1 - Mandate regular Sanctuary enforcement presence on the Bank

It is recommended that a Sanctuary vessel be secured for permanent duty to provide a regular presence within the Sanctuary. This should be for a specified number of days per year, i.e., a minimum time coverage, or that teamwork with other state and federal agencies be instituted to achieve the desired coverage. There are many reasons for the presence of a Sanctuary vessel, including enforcement, research, marine mammal disentanglement and stand-by, and education and outreach.

Option 2 - Seek funding for dedicated vessel and additional staff to enforce regulation in the Sanctuary.

Option 3- Distribute warning tickets to vessels violating whale approach guidelines until regulations are in place.

Option 4 - The Sanctuary should develop a program to randomly monitor compliance of guidelines by commercial whale watching vessels. (Ex: The Sanctuary could supply each cww with a portable GPS. Each week the Sanctuary could randomly pull a track from any given day and determine whether the vessel was in compliance when operating around whales. Vessels with 80% or > compliance would be posted as such on the Sanctuary website.)

Rationale: A preliminary study conducted by the Sanctuary in 2003 indicates that commercial whale watching compliance with whale watching guidelines is inadequate and needs to be improved. However, there is no evidence that lack of compliance has resulted in an increase in strikes of whales indicating that current guidelines, if followed, may be sufficient in reducing the risk of strikes.

Outreach/education

Action 1 - Provide a Sanctuary accreditation program to promote responsible vessel behavior around whales to avoid strikes.

Rationale: The SBNMS should offer a voluntary accreditation course to any commercial or recreational boater to provide information on whale species and common behaviors, and allow an opportunity to share information regarding safe boating around whales and ways in which collisions between boats and whales could be avoided. Attendance at this course would result in issuance of a certificate that could be advertised by the boater. Target audiences would range from captains of large commercial ships that access the port of Boston, operators of vessels that engage in whale watching (commercial or recreational), and other boaters that transit through the sanctuary. The program could be offered through classes held at the Sanctuary or, in the case of large commercial ships, through visits to the individual ship itself.

2) Assess current recreational boater outreach programs with continued support for effective programs where appropriate. Develop supplemental materials as needed. Sanctuary should actively seek funding partnerships.

Rationale: Due to the aggregation of wildlife within the Sanctuary there are increased interactions between whales and boats. As a result, the risk of harassment and vessel collisions with whales increases. The concerns raised by large numbers of well-meaning but uneducated boaters operating closely around large whales underscore the need to increase awareness of vessel operators of how to safely maneuver in the presence of whales. Programs to educate recreational boaters within the Sanctuary have been conducted. In ____ (year) the International Fund for Animal Welfare, working with the NMFS, MA State Dept., and the Center for Coastal Studies, developed "Steer Clear," a brochure sent to boaters registered in Massachusetts. Additionally, The International Wildlife Coalition, in conjunction with the Sanctuary developed a multi-phase, multi-year program called "See A Spout, Watch Out! Responsible Whale Watching" in an attempt to increase awareness to recreational boaters about whale watching guidelines within the Sanctuary. Currently, the International Fund for Animal Welfare, in conjunction with the Northeast Implementation Team, is creating a series of outreach materials concerning vessel strikes of right whales. The Sanctuary should partner with existing programs where possible, and develop supplementary materials as needed to make sure that recreational boaters are aware of the presence of whales in the SBNMS, and how they should behave to minimize the risk of striking one.

Research

NEED REAL TIME PLAN HERE

1) Increase the information available about right whale use of the SBNMS.

Rationale: The great majority of our information of whale use of the SBNMS has come from long term databases derived from sightings from commercial whale watch boats, which typically operate from April through October. In addition, there are several marine mammal-oriented research vessels that typically operate during the same period, with perhaps a bit more coverage on the fringes. However, there is little sighting effort for marine mammals during the period from November through April. During this time, consistent right whale use of Cape Cod Bay has been documented from December through April, and use of Jeffreys Ledge has been documented in the fall and early winter. Aggregations of up to thirty right whales have been seen in Stellwagen Basin, and within the borders of the SBNMS, in opportunistic early spring cruises. Right whales are of particular concern to the SBNMS because of their extreme endangered status. In order to assess the risk of a right whale strike in the sanctuary, more systematic data is needed on the presence of these animals in the SBNMS in the period from October through April.

2) The Sanctuary should conduct a year round monitoring study that would identify every vessel type, size, and route of each vessel while in the Sanctuary. This study could serve as the bases for other research projects for management practices. Additionally, continue trackline survey studies to monitor distribution of whales and vessels in the sanctuary spatially and temporally. Finally, monitor trends in vessel use (vessel types and numbers using the sanctuary, new vessel designs, etc.) over years.

Rationale: In order to minimize the risk of collision to whales, it is important that the sanctuary understand the nature of the risk, both whales and vessels. While there is good baseline data for the numbers of certain types of boats that use the SBNMS (e.g. commercial shipping vessels, whale watch vessels, cruise liners) there are many classes of boats for which similar data is lacking. A single comprehensive study would give a stronger picture of where threats lie and, as a result, management strategies could be developed where necessary. The trackline studies also provide insight into not only the numbers, kinds, positions, and routes of vessels in the SBNMS, but also where vessels overlap with marine mammals. Finally, the SBNMS needs to monitor trends in vessel use over time. This should include both changes in the amount of use of different vessel types throughout the sanctuary, but also innovations in vessel design. These should be evaluated in relation to their risk to whales as they are introduced and/or trends become clear.

3) SBNMS/NMFS should maintain an ongoing database of all details around any known strikes in and around the sanctuary.

Rationale: recently, Jensen and Silber (2003) published a detailed list of known vessel strikes. However, the authors are unsure at this point as to whether the database will continue to be updated, or if their efforts will cease with the publication of the document. Throughout the discussions of the working group, the lack of information on strikes was noted repeatedly as limiting the group's ability to determine what may or may not be appropriate mitigation measures. The group feels that it is essential that an ongoing database be maintained of vessel strikes. The information kept on each strike should be as complete as possible, including vessel type, speed and activity at the time of collision, whether the whale had been seen prior to the collision, the extent of the injury to the whale, the long term effect of the strike to the whale, etc. Only by gathering this kind of detailed information over time will the understanding of the nature of vessel strikes increase.

4) Investigate research strategies to determine responses of whales to approaching vessels to better understand the nature of vessel collisions and to help manage the approaches of vessels to whales.

Rationale: Guidelines governing vessel approaches to whales (specifically for the purpose of commercial or private whale watching) have been in place in New England and elsewhere for many years. These guidelines have been designed to prevent collisions with whales, and also to minimize the potential for behavioral disruption and harassment. However, neither these guidelines (nor regulations in place elsewhere, e.g. in Hawaii) have been based upon the results of directed, controlled studies. While there may be good precautionary reasons for the Sanctuary to codify existing NMFS speed approach guidelines into regulations within the Sanctuary, the group recommended that scientific studies be undertaken in the near future. Such studies should include how whales react to approaching vessels, including the range at which a whale reacts, whether they make consistent attempts to avoid vessels, as well as other factors regarding the nature of whale behavior as it relates to vessel collisions. Ideally, such work would also include an element to look at behavioral disturbances of whales by approaching vessels in order to answer questions framed by the behavioral disturbance working group.

5) Investigate use of forward-looking sonar or other real-time detection equipment to notify vessels of whales in their path.

Rationale: The group agreed that presently there is no device that would give a mariner sufficient warning that there is a whale in his/her path in a manner which would avoid a strike, especially by a large commercial vessel. However, as technology increases, it may be possible in the future to equip vessels with a device that may grant them sufficient warning. The Sanctuary is encouraged to partner with other researchers to fully explore this possibility. However, the group recognizes the concern expressed by the marine mammal behavioral disturbance working group that such devices could add a human-produced sound that might be detectable and/or disturbing to some marine mammals, especially Odontocetes. This concern needs to be addressed when evaluating the use and feasibility of such devices.

6) The Sanctuary should develop a toll free number to allow callers to anonymously report strikes to the Sanctuary.

Rationale: Vessel operators who believe that reporting a strike is likely to result in some type of repercussion are unlikely to report that strike. More than 80% of strike data from the greater Sanctuary area is from unknown sources and circumstances. This type of system may increase the information thereby allowing the Sanctuary to determine the best mechanism to reduce risk to whales.

7) Investigate ways in which jet-propelled vessels can operate most safely around small marine mammals.

Rationale: While the focus of this group was on vessel strikes of large whales, there was concern expressed that the high-powered water intake of large jet-propelled vessels represented a threat to smaller marine mammals, including dolphins, porpoises, and seals. As this technology becomes more prevalent, the risk to smaller marine mammals may, therefore, increase accordingly. The Sanctuary is encouraged to investigate the extent of this threat, and whether there are any measures that could be used (including screens over intake valves) to maximize the safety of these vessels for marine mammals.

Literature Cited

Appendices

1 – Ship Strikes within the SBNMS and Massachusetts waters

2 – Whale watch data table

3 – Economic argument of shippers

4 the Stellwagen Bank Marine Mammal Reporting and Information Center

Proposal: The most effective approach to reducing the potential of ship or vessel strikes with marine mammals in the Sanctuary is through the sharing of real time information to both the commercial and recreational Masters of vessels operating in and around the Sanctuary as to the actual known locations, numbers and types of marine mammals in and around it.

Rationale: Recent advancements in GPS technologies, and a very recent federal mandate of commercial vessels over sixty- five feet, create a unique and timely opportunity for SBNMS

Accordingly, the sub-committee recommends that the SBNMS dedicate the required resources for the build-out of the Stellwagen Bank Marine Mammal Reporting and Information Center (Center) which would be manned 24 / 7 / 365 at its headquarters in Scituate, MA. At minimum the Center should be equipped with a telephone, VHF, Single Side Band Radios, Electronic Charts of the Sanctuary and receiving equipment for Automated Identification Systems (AIS).

As part of the Maritime Security Act of 2003, beginning January 1, 2005 all commercial domestic and foreign flag vessels over 65' in length operating in US waters will be required to be equipped with AIS. The new technology will continuously broadcast real time tracking information for vessels so equipped, to other vessels or facilities with corresponding receiving equipment. At minimum the information transmitted by each vessels AIS will include the vessels name, location, track line and speed.

The requirement of owners to make this financial investment to all applicable vessels creates an opportunity for SBNMS to have real time monitoring of a majority of vessel traffic within the Sanctuary much sooner than had been anticipated, and makes this recommendation financially and operationally practical.

Through the development of the Center, the Sanctuary will be equipped to garner and broadcast all of the real time information provided to it by the boating population of the Sanctuary, as it relates to the most current known location of animals. The amount of information which it receives will be directly proportionate to the number of vessels reporting. The Center will have available to it, an abundance of information when the combined density of vessels and animals is highest, and the potential for conflict is greater. It will avoid blanket regulations such as course changes, specific track lines, and speed restrictions, which could elevate the risk to vessels and animals as opposed to diminishing it. It avoids the delays which will certainly result from a long and perhaps contentious public review and debate on whether or not SBNMS has the authority to create regulations which conflict with International Rules of the Road.

Following is an outline of how the Center would function.

Receiving information on actual locations of marine mammals

- 1) SBNS would establish a hotline for mariners to report sightings. The number would be distributed to all commercial vessel operators, and could be made available to recreational owners.
- 2) All vessels transiting in the Sanctuary will be required to report all sightings of marine mammals in and around the Sanctuary.
- 3) SBNS would identify and publish the radio frequencies, (both VHF and SSB) which the Center will continuously monitor for of receiving sighting reports.
- 4) All commercial vessels transiting in the sanctuary will agree to provide immediate information on all sightings to the Center via telephone, radio, or other mutual communication systems which they and the Center may have.
- 5) Each report would include as much information as possible including the location, type, number, activity engaged in, and approximate track of transiting animals.

Receiving information of the actual location of commercial vessels

- 1) The Center will have the ability to monitor every commercial vessel transiting in the Sanctuary which are in excess of sixty-five feet through AIS. Additionally, the SBNS could determine that all vessels without AIS report in prior to, and at the conclusion of, transiting the sanctuary. At minimum, the report would include information on the size of the vessel, intended track through the sanctuary and anticipated speed during transit.

Broadcasting or communicating to vessels within the sanctuary

- 1) With the benefit of real time sighting reports, and the ability to track all vessels equipped with AIS as they transit the Sanctuary, the Center will communicate the most current known location of animals within it, or least those known to be in close proximity to a particular vessels intended track. Additionally, the Center would request that the Master of any vessel consider an alternate track if it had serious concerns of a transit which will bring a vessel into close proximity of a known location of animal(s). The request would be made early enough, to allow the Masters of larger ships adequate time to review all of their options. The communications could be accomplished through any one of the modes available to the Center.
- 2) To reach vessels without AIS, the Center would make hourly broadcast on prescribed and advertised VHF and SSB frequencies. The broadcast would identify the most current information available on the known location of animals in and around the Sanctuary. The structure and format of these communications would be similar to USCG Notice to Mariners broadcast.